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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
PANNALA, SATHYANARAYA R	
ART UNIT	**PAPER NUMBER**
2164	

DATE MAILED: 03/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/632,190	SENTHIL, MUTHU	
	Examiner	Art Unit	
	Sathyanarayan Pannala	2164	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 July 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *7/30/2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Application No. 10/632190 filed on 7/30/2003 has been examined. In this Office Action, claims 1-20 are pending.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 7/30/2003 is in compliance with the provisions of 37 CFR 1.97 and has been considered by the examiner.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. § 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 6, 7 are rejected under 35 U.S.C. § 112, second paragraph. Claim 6 recites the limitation "determining a largest common substring from said Levenshtein distance matrix" and claim 7 recites the limitation "as being insufficient antecedent basis for the limitation in the claim.

5. Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. There is no relation between claim 7 and claim 6 limitations.

Claim Rejections - 35 USC § 101

6. 35 U.S.C. § 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

7. Claims 1-20 are rejected under 35 U.S.C. § 101, because none of the claims are directed to statutory subject matter. Independent claims 1, 6 and 14 deals with simple mathematical abstract ideas. A claim that recites a computer that solely calculates a mathematical formula or a computer disk that solely stores a mathematical formula is not directed to the type of subject matter eligible for patent protection. See Diehr, 450 US at 186 and Gottschalk v. Benson, 409 U.S. 63,71-72(1972).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and

the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kilpatrick et al. (US Patent 6,742,124) hereinafter Kilpatrick, and in view of Aiken (US Patent 6,240,409) hereinafter Aiken.

10. As per independent claim 1, Kilpatrick teaches an intrusion detection operating efficiently in real-time. Computational efficiency is generated through the representation of known sequences of system calls in a distance matrix. The distance matrix indirectly specifies known sequences by specifying allowable separation distances between parts of systems (col. 3, lines 11-16). Kilpatrick teaches the claimed, calculating a Levenshtein matrix of said first string and said second string (Fig. 6, col. 10, lines 7-10). Kilpatrick teaches the claimed, determining a Levenshtein distance from said Levenshtein matrix (Fig. 6, col. 10, lines 27-28). Kilpatrick does not explicitly teach largest common substring between strings. However, Aiken teaches the claimed, determining a largest common substring (col. 3, lines 7). Thus, it would have been obvious to one of ordinary skill in the data processing art at the time of the invention, to have combined the teachings of the cited references because Aiken's teachings would have allowed Kilpatrick's method to provide a visualization of the status of connection so as to enable users to gain essentially immediate and accurate impression of the connection (col. 2, lines 22-25).

11. As per dependent claim 2, Kilpatrick teaches the claimed, determining a largest common substring from said Levenshtein distance matrix comprises determining a longest diagonal of equal hamming distances of a lowest value (Fig. 5, Table 2, col. 9, lines 31-35).

12. As per dependent claim 3 Kilpatrick teaches the claimed, calculating a Levenshtein score (Fig. 5, col. 9, lines 44-45).

13. As per dependent claim 4, further comprising determining the length of the largest common substring (Fig. 5, Table 2, col. 9, lines 31-35).

14. As per dependent claim 5, further comprising calculating a largest common substring score (Fig. 5, Table 2, col. 9, lines 31-35).

15. Claims 6-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kilpatrick et al. (US Patent 6,742,124) hereinafter Kilpatrick, and in view of Haigh et al. (USPA Pub. 2003/0004716 A1) hereinafter Haigh.

16. As per independent claim 6, Kilpatrick teaches an intrusion detection operating efficiently in real-time. Computational efficiency is generated through the representation of known sequences of system calls in a distance matrix. The distance matrix indirectly

specifies known sequences by specifying allowable separation distances between parts of systems (col. 3, lines 11-16). Kilpatrick teaches the claimed, calculating a Levenshtein matrix of said first string and said second string (Fig. 6, col. 10, lines 7-10). Kilpatrick teaches the claimed, determining a Levenshtein distance from said Levenshtein matrix (Fig. 6, col. 10, lines 27-28). Kilpatrick does not explicitly teach largest common substring between strings. However, Haigh teaches the claimed, determining a largest common substring (Fig. 6, page 5, paragraph [0053-0054]). Thus, it would have been obvious to one of ordinary skill in the data processing art at the time of the invention, to have combined the teachings of the cited references because Haigh's teachings would have allowed Kilpatrick's method to identify and categorize text within documents in order to overcome difficulties, time consuming and tedious while using rules or regular expressions (page 1, paragraph [0011]). Kilpatrick teaches the claimed, calculating a Levenshtein score as a function of said Levenshtein distance (Fig. 6, col. 9, lines 44-45). Kilpatrick teaches the claimed, calculating a largest common substring score as a function of said largest common substring (Fig. 6, Table 2, col. 9, lines 31-35).

17. As per dependent claim 7, Kilpatrick teaches the claimed, calculating an acronym score (Fig. 6, col. 9, lines 44-45).

18. As per dependent claim 8, Kilpatrick and Haigh combined teaches claim 6. Haigh teaches the claimed, calculating a weighted acronym score comprising a product

of said acronym score and an acronym weight factor (Fig. 7, page 5, paragraph [0057]). Thus, it would have been obvious to one of ordinary skill in the data processing art at the time of the invention, to have combined the teachings of the cited references because Haigh's teachings would have allowed Kilpatrick's method to identify and categorize text within documents in order to overcome difficulties, time consuming and tedious while using rules or regular expressions (page 1, paragraph [0011]).

19. As per dependent claim 9, Kilpatrick and Haigh combined teaches claim 6. Haigh teaches the claimed, calculating a weighted Levenshtein score comprising a product of said Levenshtein score and a Levenshtein weight factor calculating a weighted largest common substring score comprising a product of said largest common substring score and a largest common substring weight factor and calculating a Levenshtein largest common substring score comprising a sum of said weighted Levenshtein score and said weighted largest common substring score (Fig. 7, page 5, paragraph [0057]). Thus, it would have been obvious to one of ordinary skill in the data processing art at the time of the invention, to have combined the teachings of the cited references because Haigh's teachings would have allowed Kilpatrick's method to identify and categorize text within documents in order to overcome difficulties, time consuming and tedious while using rules or regular expressions (page 1, paragraph [0011]).

20. As per dependent claim 10, Kilpatrick and Haigh combined teaches claim 6. Haigh teaches the claimed, a sum of said Levenshtein weight factor and said largest common substring weight factor is equal to one (Fig. 7, page 5, paragraph [0057]). Thus, it would have been obvious to one of ordinary skill in the data processing art at the time of the invention, to have combined the teachings of the cited references because Haigh's teachings would have allowed Kilpatrick's method to identify and categorize text within documents in order to overcome difficulties, time consuming and tedious while using rules or regular expressions (page 1, paragraph [0011]).

21. As per dependent claim 11, Kilpatrick and Haigh combined teaches claim 6. Haigh teaches the claimed, calculating a first weighted numerical score comprising a product of said Levenstein/largest common substring score and a string weight factor (Fig. 7, page 5, paragraph [0057]). Thus, it would have been obvious to one of ordinary skill in the data processing art at the time of the invention, to have combined the teachings of the cited references because Haigh's teachings would have allowed Kilpatrick's method to identify and categorize text within documents in order to overcome difficulties, time consuming and tedious while using rules or regular expressions (page 1, paragraph [0011])..

22. As per dependent claim 11, Kilpatrick and Haigh combined teaches claim 6. Haigh teaches the claimed, calculating an acronym score, calculating a weighted acronym score comprising a product of said acronym score and an acronym weight

factor and calculating a second weighted numerical score comprising a sum of said first weighted numerical score and said weighted acronym score (Fig. 7, page 5, paragraph [0057]). Thus, it would have been obvious to one of ordinary skill in the data processing art at the time of the invention, to have combined the teachings of the cited references because Haigh's teachings would have allowed Kilpatrick's method to identify and categorize text within documents in order to overcome difficulties, time consuming and tedious while using rules or regular expressions (page 1, paragraph [0011]).

23. As per dependent claim 12, Kilpatrick and Haigh combined teaches claim 6. Haigh teaches the claimed, a sum of said string weight factor and said acronym weight factor is equal to one (Fig. 7, page 5, paragraph [0057]). Thus, it would have been obvious to one of ordinary skill in the data processing art at the time of the invention, to have combined the teachings of the cited references because Haigh's teachings would have allowed Kilpatrick's method to identify and categorize text within documents in order to overcome difficulties, time consuming and tedious while using rules or regular expressions (page 1, paragraph [0011]).

24. As per independent claim 14, Kilpatrick teaches an intrusion detection operating efficiently in real-time. Computational efficiency is generated through the representation of known sequences of system calls in a distance matrix. The distance matrix indirectly specifies known sequences by specifying allowable separation distances between parts of systems (col. 3, lines 11-16). Kilpatrick teaches the claimed, calculating a

Levenshtein score of said first string and said second string (Fig. 6, col. 10, lines 7-10). Kilpatrick does not explicitly teach largest common substring between strings. However, Haigh teaches the claimed, calculating a largest common substring score of said first string and said second string and calculating a first numerical score as a function of said Levenshtein score and said largest common substring score (Fig. 6, page 5, paragraph [0053-0054]). Thus, it would have been obvious to one of ordinary skill in the data processing art at the time of the invention, to have combined the teachings of the cited references because Haigh's teachings would have allowed Kilpatrick's method to identify and categorize text within documents in order to overcome difficulties, time consuming and tedious while using rules or regular expressions (page 1, paragraph [0011]).

25. As per dependent claim 15, Kilpatrick teaches the claimed, calculating a Levenshtein matrix of said first string and said second string, determining a Levenshtein distance from said Levenshtein matrix and subtracting the resultant of dividing said Levenshtein distance by an average of a length of said first string and a length of said second string from one (Fig. 6, col. 9, lines 44-45, col. 10, lines 27-28).

26. As per dependent claim 16, Kilpatrick and Haigh combined teaches claim 14. Haigh teaches the claimed, determining a length of a largest common substring from said Levenshtein matrix and dividing said length of said largest common substring by an average of a length of said first string and a length of said second string (Fig. 7, page 5,

paragraph [0053-0054 and 0057]). Thus, it would have been obvious to one of ordinary skill in the data processing art at the time of the invention, to have combined the teachings of the cited references because Haigh's teachings would have allowed Kilpatrick's method to identify and categorize text within documents in order to overcome difficulties, time consuming and tedious while using rules or regular expressions (page 1, paragraph [0011]).

27. As per dependent claim 17, Kilpatrick and Haigh combined teaches claim 14. Haigh teaches the claimed, calculating a weighted Levenshtein score comprising a product of said Levenshtein score and a Levenshtein weight factor, calculating a weighted largest common substring score comprising a product of said largest common substring score and a largest common substring weight factor and summing said weighted Levenshtein score and said weighted largest common substring score (Fig. 7, page 5, paragraph [0057]). Thus, it would have been obvious to one of ordinary skill in the data processing art at the time of the invention, to have combined the teachings of the cited references because Haigh's teachings would have allowed Kilpatrick's method to identify and categorize text within documents in order to overcome difficulties, time consuming and tedious while using rules or regular expressions (page 1, paragraph [0011]).

28. As per dependent claim 18, Kilpatrick teaches the claimed, calculating an acronym score and calculating a second numerical score as a function of said first numerical score and said acronym score (Fig. 6, col. 9, lines 44-45).

29. As per dependent claim 19, Kilpatrick and Haigh combined teaches claim 14. Haigh teaches the claimed, calculating a weighted Levenshtein score comprising a product of said Levenshtein score and a Levenshtein weight factor, calculating a weighted largest common substring score comprising a product of said largest common substring score and a largest common substring weight factor, calculating a Levenshtein largest common substring score comprising a sum of said weighted Levenshtein score and said weighted largest common substring score, calculating a weighted Levenshtein/largest common substring score comprising a product of said Levenshtein/largest common substring score and a Levenshtein/largest common substring weight factor, calculating a weighted acronym score comprising a product of said acronym score and an acronym score weight factor and summing said weighted Levenshtein largest common substring score and said weighted acronym score (Fig. 7, page 5, paragraph [0057]). Thus, it would have been obvious to one of ordinary skill in the data processing art at the time of the invention, to have combined the teachings of the cited references because Haigh's teachings would have allowed Kilpatrick's method to identify and categorize text within documents in order to overcome difficulties, time consuming and tedious while using rules or regular expressions (page 1, paragraph [0011]).

30. As per dependent claim 20, Kilpatrick and Haigh combined teaches claim 14. Haigh teaches the claimed, utilizing said first numerical score for determining said similarity, when said first string and said second string comprise numerical-type strings and utilizing said second numerical score for determining said similarity, when said first string or said second string comprise character-type strings (Fig. 7, page 5, paragraph [0057]). Thus, it would have been obvious to one of ordinary skill in the data processing art at the time of the invention, to have combined the teachings of the cited references because Haigh's teachings would have allowed Kilpatrick's method to identify and categorize text within documents in order to overcome difficulties, time consuming and tedious while using rules or regular expressions (page 1, paragraph [0011]).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sathyanarayan Pannala whose telephone number is (571) 272-4115. The examiner can normally be reached on 8:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Rones can be reached on (571) 272-4085. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sathyanarayan Pannala
Examiner
Art Unit 2164

srp
February 4, 2006